

ipd4200mdimgsvdTES-10

Defense Information Infrastructure (DII)

Common Operating Environment (COE)

**Software Version Description (SVD)
for the
Imagery Database (MDIMG) Segment
of the
Tactical Environmental Support System Next Century
[TESS(NC)]
Meteorology and Oceanography (METOC) Database**

Document Version 4.2

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1 SCOPE

1.1 Identification

This Software Version Description (SVD) describes the Imagery Database (MDIMG) segment, Version 4.1.1, of the Tactical Environmental Support System Next Century [TESS(NC)] Meteorology and Oceanography (METOC) Database. The MDIMG segment provides a database for the storage and retrieval of Imagery Products. This software is designed to run under the Defense Information Infrastructure (DII) Common Operating Environment (COE) release 3.1 on a Hewlett-Packard computer running HP-UX 10.20 or a personal computer running the Microsoft Windows NT 4.0 operating system with Service Pack 3.

1.2 System Overview

The Application Program Interfaces (APIs) described in this document form a portion of the METOC Database component of the TESS(NC) Program (Navy Integrated Tactical Environmental Subsystem (NITES) Version I). On 29 October 1996, the Oceanographer of the Navy issued a TESS Program Policy statement in letter 3140 Serial 961/6U570953, modifying the Program by calling for five seamless software versions that are DII COE compliant, preferably to level 5.

The five versions are:

- NITES Version I The local data fusion center and principal METOC analysis and forecast system (TESS(NC))
- NITES Version II The subsystem on the Joint Maritime Command Information System (JMCIS) or Global Command and Control System (GCCS) (NITES/Joint METOC Segment (JMS))
- NITES Version III The unclassified aviation forecast, briefing, and display subsystem tailored to Naval METOC shore activities (currently satisfied by the Meteorological Integrated Data Display System (MIDDS))
- NITES Version IV The Portable subsystem composed of independent Personal Computers (PCs)/workstations and modules for forecaster, satellite, communications, and Integrated Command, Control, Communications, Computer, and Intelligence Surveillance Reconnaissance (IC4ISR) functions (currently the Interim Mobile Oceanographic Support System (IMOSS))
- NITES Version V Foreign Military Sales (currently satisfied by the Allied Environmental Support System (AESS))

NITES I acquires and assimilates various METOC data for use by US Navy and Marine Corps weather forecasters and tactical planners. NITES I provides these users with METOC data, products, and applications necessary to support the warfighter in tactical operations and decision making. NITES I provides METOC data and products to NITES I and II applications, as well as non-TESS(NC) systems requiring METOC data, in a heterogeneous, networked computing environment.

The TESS(NC) Concept of Operations and system architecture require that the METOC Database be distributed both in terms of application access to METOC data and products and in terms of physical location of the data repositories. The organizational structure of the database is influenced by these requirements, and the components of this distributed database are described below.

In accordance with DII COE database concepts, the METOC Database is composed of six DII COE-compliant *shared database* segments. Associated with each shared database segment is an API segment. The segments are arranged by data type as follows:

<u>Data Type</u>	<u>Data Segment</u>	<u>API Segment</u>
Grid Fields	MDGRID	MAGRID
Latitude-Longitude-Time (LLT) Observations	MDLLT	MALLT
Textual Observations and Bulletins	MDTXT	MATXT
Remotely Sensed Data	MDREM	MAREM
Imagery	MDIMG	MAIMG
Climatology Data	MDCLIM	MACLIM

A typical client-server installation is depicted in Figure 1-1 on the next page. This shows the shared database segments residing on a DII COE SHADE database server, with a NITES I or II client machine hosting the API segments. Communication between API segments and shared database segments is accomplished over the network using American National Standards Institute (ANSI)-standard Structured Query Language (SQL).

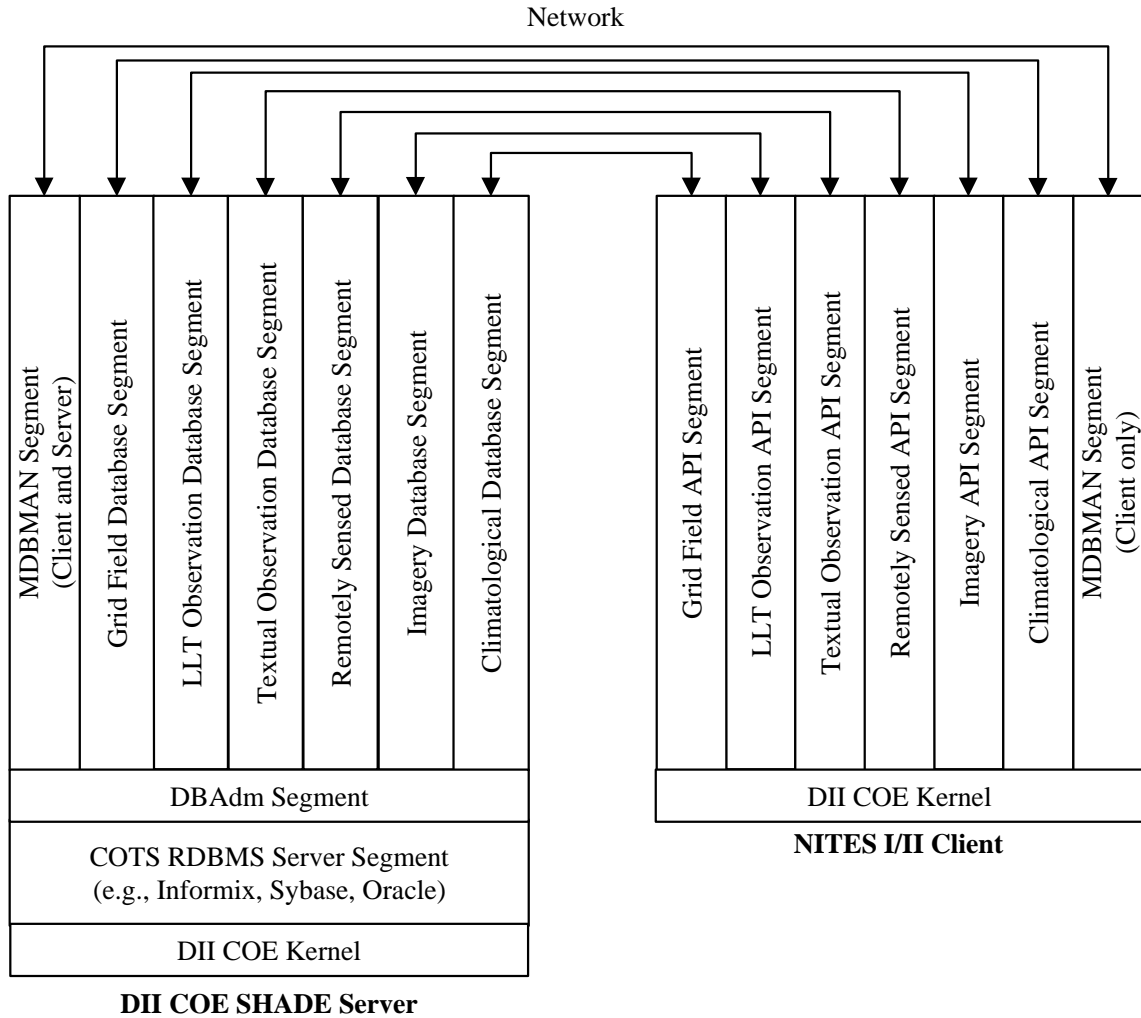


Figure 1-1. TESS(NC) METOC Database Conceptual Organization

The database in the MDIMG segment deals with imagery products. Imagery products can be associated with a specific geographic point/area, as well as time. A number of different image formats are supported; they are NITF, MIF, GIF, TIFF, BMP, JPEG, XWD, XBM, PBM, MPEG, and Other.

1.3 Product Information

1.3.1 Product Qualification

Test and Evaluation (T&E) of the software was performed at the Integrated Performance Decisions (IPD) facility in Middletown, RI, prior to delivery of the software.

1.3.2 Product Restrictions

IPD's intellectual property rights to deliverables defined in this document are covered by the copyright license under the clause in DFARS 252.227-7013 (Nov. 1995).

1.3.3 Product Dependencies

The MDIMG segment is hosted on the following hardware:

- Tactical Advanced Computer, TAC-3 (HP 750/755)/TAC-4 (HP J210)

The operating system requirements are:

- TAC-3/TAC-4: HP-UX 10.20.

The kernel requirements are:

- Kernel 3.0.1.0 with patches through P4.

The following software must be properly installed prior to loading the MDIMG segment:

- Appropriate operating system (as described above),
- Appropriate DII COE Kernel (as described above),
- DII COE Informix Connect Segment (INFXCN), version 1.0.1.0.

2 REFERENCED DOCUMENTS

2.1 Government Documents

- | | |
|---|--|
| Unnumbered
30 September 1997 | <i>Database Design Description for the Tactical Environmental Support System/Next Century [TESS(NC)] Meteorological and Oceanographic (METOC) Database, Space and Naval Warfare Systems Command, Environmental Systems Program Office (SPAWAR PMW-185), Washington, DC</i> |
| ipd4200mdimgipTES-10
21 January 1999 | <i>Installation Procedures (IP) for the Imagery Database (MDIMG) Segment of the Tactical Environmental Support System Next Century [TESS(NC)] Meteorology and Oceanography (METOC) Database</i> |

2.2 Non-Government Documents

None.

3 VERSION DESCRIPTION

3.1 Inventory of materials released

All physical media and associated documentation for the MDIMG segment are listed below.

- MDIMG Segment v4.1.1 (HP-UX) Installation Tape (4-mm Digital Audio Tape (DAT) cartridge for TAC-3/TAC-4 hardware)
- MDIMG Segment v4.2 series IP, dated 21 January 1999
- MDIMG Segment v4.2 SVD, dated 21 January 1999.

3.2 Inventory of Software Contents

A list of all executables and environment files delivered is contained in Appendix A of this document.

3.3 Changes Installed

A list of changes installed is contained in Appendix B of this document.

3.4 Waivers

There are no waivers associated with this software.

3.5 Adaptation Data

There are no unique-to-site data contained in the MDIMG 4.1.1 release.

3.6 Installation Instructions

The MDIMG segment v4.2 series IP referenced in Section 2 of this document provides comprehensive installation instructions for the MDIMG segment. The fully installed segment occupies approximately 120 K of disk space. The software requires a minimum of 128 MB of RAM, with 192 MB recommended.

3.7 Possible Problems and Known Errors

Known problems and errors with MDIMG software are listed in Appendix C of this document.

4 NOTES

4.1 Glossary of Acronyms

AESS	Allied Environmental Support System
ANSI	American National Standards Institute
API	Application Program Interface
COE	Common Operating Environment
DAT	Digital Audio Tape
DII	Defense Information Infrastructure
GCCS	Global Command and Control System
IC4ISR	Integrated Command, Control, Communications, Computer, and Intelligence Surveillance Reconnaissance
IMOSS	Interim Mobil Oceanographic Support System
INFXCN	Informix Connect Segment
IP	Installation Procedures
IPD	Integrated Performance Decisions
JMCIS	Joint Maritime Command Information System
JMS	Joint METOC Segment
LLT	Latitude-Longitude-Time
MDIMG	Imagery Database Segment of the TESS(NC) METOC Database
METOC	Meteorology and Oceanography
MIDDS	Meteorological Integrated Data Display System
NITES	Navy Integrated Tactical Environmental Subsystem
PC	Personal Computer

PTR	Program Trouble Report
SQL	Software Query Language
SVD	Software Version Description
T&E	Test and Evaluation
TESS(NC)	Tactical Environmental Support System Next Century

Appendix A - List of Executables and Environment Files

A.1 File Structure for HP-UX Delivery

```

/h/MDIMG
total 12
drwxr-xr-x  2 sysadmin  COE    1024  Jan  8 18:59  bin
drwxr-xr-x  2 sysadmin  COE    1024  Jan  8 18:59  data
drwxr-xr-x  2 sysadmin  COE    1024  Jan  8 18:59  Scripts
drwxr-xr-x  3 sysadmin  COE    1024  Jan  8 18:59  install
drwxrwxr-x  2 313      COE    1024  Jan  8 18:59  Integ
drwxr-xr-x  2 313      COE    1024  Jan  8 19:00  SegDescrip

/h/MDIMG/bin
total 14
-r-xr-xr-x  1 sysadmin  COE    2617  Jan  7 21:23  MDIMGCreateBlob
-r-xr-xr-x  1 sysadmin  COE    1436  Jan  7 21:23  MDIMGDropBlob
-r-xr-xr-x  1 sysadmin  COE    1334  Jan  7 21:23  MDIMGGetDBSize

/h/MDIMG/data
total 22
-r--r--r--  1 sysadmin  COE      75  Jan  7 21:23  MDIMG_Format.txt
-r--r--r--  1 sysadmin  COE    1028  Jan  7 21:23  MDIMG_Satellite.txt
-r--r--r--  1 sysadmin  COE    3408  Jan  7 21:23  MDIMG_Channel.txt
-r--r--r--  1 sysadmin  COE     233  Jan  7 21:23  MDIMG_Sensor.txt
-r--r--r--  1 sysadmin  COE     401  Jan  7 21:23  MDIMG_Type.txt
-r--r--r--  1 sysadmin  COE    1299  Jan  7 21:23  MDIMG_SubType.txt

/h/MDIMG/Scripts
total 0

/h/MDIMG/install
total 8
-r-xr-xr-x  1 sysadmin  COE     547  Jan  7 21:23  deinstall_mdimg
-r-xr-xr-x  1 sysadmin  COE    1711  Jan  7 21:23  install_mdimg
drwxr-xr-x  2 sysadmin  COE    1024  Jan  8 18:59  sql

/h/MDIMG/Integ
total 2
-rw-rw-r--  1 313      COE     735  Jan  7 21:24  VSOutput

/h/MDIMG/SegDescrip
total 22
-rw-r--r--  1 313      COE     451  Jan  7 21:23  ReleaseNotes
-rw-r--r--  1 313      COE     301  Jan  7 21:23  SegName
-rw-r--r--  1 313      COE      27  Jan  7 21:23  VERSION
-rwxr-xr-x  1 313      COE     765  Jan  7 21:23  DEINSTALL
-rwxr-xr-x  1 313      COE    1963  Jan  7 21:23  PostInstall
-rw-rw-r--  1 313      COE    1289  Jan  7 21:24  FileAttribs
-rw-r--r--  1 313      COE     284  Jan  8 18:35  SegInfo
-rw-rw-rw-  1 root     COE     128  Jan  8 18:35  Validated
-rw-rw-rw-  1 root     other    140  Jan  8 19:00  Installed

/h/MDIMG/install/sql
total 56
-r-xr-xr-x  1 sysadmin  COE    2578  Jan  7 21:23  MDIMG_DatasetDir_scripts

```

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-r-xr-xr-x	1	sysadmin	COE	1629	Jan	7	21:23	MDIMG_Format_scripts
-r-xr-xr-x	1	sysadmin	COE	1905	Jan	7	21:23	MDIMG_Satellite_scripts
-r-xr-xr-x	1	sysadmin	COE	1675	Jan	7	21:23	MDIMG_Sensor_scripts
-r-xr-xr-x	1	sysadmin	COE	1777	Jan	7	21:23	MDIMG_SubTypes_scripts
-r-xr-xr-x	1	sysadmin	COE	1810	Jan	7	21:23	MDIMG_Channel_scripts
-r-xr-xr-x	1	sysadmin	COE	1615	Jan	7	21:23	MDIMG_Types_scripts
-r--r--r--	1	sysadmin	COE	85	Jan	7	21:23	MDIMG_Channel.cmd
-r--r--r--	1	sysadmin	COE	83	Jan	7	21:23	MDIMG_Format.cmd
-r-xr-xr-x	1	sysadmin	COE	2693	Jan	7	21:23	mdimg_cds_scripts
-r--r--r--	1	sysadmin	COE	89	Jan	7	21:23	MDIMG_Satellite.cmd
-r--r--r--	1	sysadmin	COE	86	Jan	7	21:23	MDIMG_SubTypes.cmd
-r--r--r--	1	sysadmin	COE	83	Jan	7	21:23	MDIMG_Sensor.cmd
-r--r--r--	1	sysadmin	COE	91	Jan	7	21:23	MDIMG_DatasetDir.cmd
-rw-r--r--	1	sysadmin	COE	10	Jan	7	21:23	mdimg_drop_file_inf
-r--r--r--	1	sysadmin	COE	80	Jan	7	21:23	MDIMG_Types.cmd
-rw-r--r--	1	sysadmin	COE	18	Jan	7	21:23	mdimg_create_file_inf
-rw-r--r--	1	sysadmin	COE	23	Jan	8	18:59	mdimg_create_blob_inf

Appendix B - Changes/Updates Since Preliminary Release

This release made the following changes:

Pri	PTR #	Summary
1	109	Product Type MAIMG_OTHER does not appear to be properly represented in the MDIMG SubTypes table.
2	146	Extended BLOB spaces not removed on deinstall.
3	143	Change ordering of product type defines so that other satellites can be added without having to go through code changes.
3	145	Add product Type for DMSP composite images.
6	166	Satellite Product requires a Channel ID.

Appendix C - Known Problems and Errors

Pri	PTR #	Summary
3	242	Add ability to check DB and API compatibility at connect time.

A detailed Program Trouble Report (PTR) is contained on the following page.

